WHAT IS CLAIMED IS:

1. A method for tuning quality factor (Q) in a high-Q, high-frequency filter, comprising:

filtering an input signal to generate a filtered signal, the input signal comprising a specified frequency, the filtered signal comprising an actual phase shift with respect to the input signal;

comparing the actual phase shift to a desired phase shift for the filtered signal to determine a difference between the actual phase shift and the desired phase shift, the desired phase shift corresponding to the specified frequency; and

tuning the filter based on the difference between the actual phase shift and the desired phase shift.

2. The method of Claim 1, comparing the actual phase shift to the desired phase shift comprising:

shifting the phase of the input signal by the desired phase shift to generate a shifted signal; and

mixing the shifted signal with the filtered signal to determine the difference between the actual phase shift and the desired phase shift.

3. The method of Claim 1, tuning the filter based on the difference between the actual phase shift and the desired phase shift comprising:

generating an error signal based on the difference between the actual phase shift and the desired phase shift;

generating a tuning signal for the filter based on the error signal; and

tuning the filter based on the tuning signal.

4. The method of Claim 1, further comprising:

generating a reference signal, the reference signal comprising a fixed multiple of the specified frequency; and

dividing the reference signal by the fixed multiple to generate the input signal.

5. The method of Claim 4, comparing the actual phase shift to the desired phase shift comprising:

delaying the input signal by a specified number of clock cycles to generate a shifted signal; and

mixing the shifted signal with the filtered signal to determine the difference between the actual phase shift and the desired phase shift.

6. The method of Claim 5, the fixed multiple comprising eight and the specified number of clock cycles comprising one.

7. The method of Claim 1, the specified frequency comprising at least about 10 MHz.

8. The method of Claim 1, the specified frequency comprising at least about 70 MHz.

9. The method of Claim 1, the specified frequency comprising at least about 300 MHz.

10. A system for tuning quality factor (Q) in a high-Q, high-frequency filter, comprising:

a filter operable to receive a high frequency input signal and to generate a filtered signal based on the input signal;

a phase shifter operable to receive the input signal and to generate a shifted signal based on the input signal;

a mixer/phase frequency detector (PFD) coupled to the filter and the phase shifter, the mixer/PFD operable to receive the filtered signal and the shifted signal and to generate an error signal based on a phase difference between the filtered signal and the shifted signal; and

a bias tuning mechanism coupled to the filter and the mixer/PFD, the bias tuning mechanism operable to generate a tuning signal for the filter based on the error signal, the filter further operable to receive the tuning signal and to be tuned based on the tuning signal.

11. The system of Claim 10, further comprising a signal source coupled to the filter and the phase shifter, the signal source operable to generate the input signal.

12. The system of Claim 10, further comprising a low-pass filter coupled to the mixer/PFD and the bias tuning mechanism, the low-pass filter operable to filter the error signal to generate a

filtered error signal, the bias tuning mechanism further operable to receive the filtered error signal and to generate the tuning signal based on the filtered error signal.

13. The system of Claim 10, the phase shifter operable to generate the shifted signal based on the input signal by shifting the phase of the input signal by a specified value, the input signal comprising a specified frequency and the specified value corresponding to the specified frequency.

14. The system of Claim 10, the mixer/PFD operable to generate an error signal based on a phase difference between the filtered signal and the shifted signal by comparing a phase of the filtered signal to a phase of the shifted signal and generating the error signal based on a difference between the phases of the filtered and shifted signals.

15. The system of Claim 10, the specified frequency comprising one of the following: at least about 10 MHz, at least about 70 MHz and at least about 300 MHz.

16. A system for tuning quality factor (Q) in a high-Q, high-frequency filter, comprising:

a divider operable to generate a high frequency input signal and a shifted signal based on the input signal;

a filter coupled to the divider, the filter operable to receive the input signal and to generate a filtered signal based on the input signal;

a digital phase frequency detector (DPFD) coupled to the filter and the divider, the DPFD operable to receive the filtered signal and the shifted signal and to generate one of an up signal and a down signal based on a phase difference between the filtered signal and the shifted signal;

an up/down counter coupled to the DPFD, the up/down counter operable to receive the one of the up signal and the down signal and to generate an adjustment signal based on the one of the up signal and the down signal; and

a bias tuning mechanism coupled to the filter and the up/down counter, the bias tuning mechanism operable to receive the adjustment signal and to generate a tuning signal for the filter based on the adjustment signal, the filter further operable to receive the tuning signal and to be tuned based on the tuning signal.

17. The system of Claim 16, further comprising a signal source coupled to the divider, the signal source operable to generate a fixed multiple of the input signal for the divider.

18. The system of Claim 16, the divider further operable to generate the shifted signal based on the input signal by shifting the phase of the input signal by a specified value, the input signal comprising a specified frequency and the specified value corresponding to the specified frequency.

19. The system of Claim 18, the divider further operable to shift the phase of the input signal by delaying the input signal by a specified number of cycles.

20. The system of Claim 16, further comprising an inverter set coupled between the filter and the DPFD, the inverter set operable to delay the filtered signal.